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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,789	04/03/2006	Steffen Pfeiffer	4385-051182	5011

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EXAMINER

LISTVOYB, GREGORY

ART UNIT	PAPER NUMBER
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1711

MAIL DATE	DELIVERY MODE
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09/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/539,789

Applicant(s)

PFEIFFER ET AL.

Examiner

Gregory Listvoyb

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1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/16/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102/103

Claims 25-27, 29, 31-32, 34-35, 37-47 rejected under 35 U.S.C. 102/103 as being anticipated by Ratzsch et al (WO 03/106558, cited with equivalent US 2006/0100317) herein Ratzsch.

Ratzsch direct synthesis process for preparing etherified melamine resin condensates with average molecular weights of $M_n=1800$ (see line 0248, meeting the limitations of Claim 39), the melamine resin condensates

where

a) in the first step of the reaction, an etherified melamine resin precondensate (containing melamine and formaldehyde, meeting the limitations of claims 29 and 31) is prepared in alcoholic solution (methanol, meeting the limitations of Claims 27 and 28) (see Example 1) at 90C (see Example 1, meeting the limitations of Claim 34) in a stirred tank (see Example 1, meeting the limitations of Claim 44),

b) in at least one vaporization step, the concentration of the etherified melamine resin precondensate in alcoholic solution is increased (see Example 1, two step vaporization, meeting the limitations of Claim 37), C4-C18 alcohols, diols of the type represented by HO-R-OH (bis(hydroxyethyl) terephthalate) is added to precondensate after the concentration-increase process (see Example 1),

c) in a second step of the reaction, the increased-concentration melamine resin precondensate is reacted, using a mixer, such as a kneader (see Example 1).

Ratzsch does not explicitly disclose that the melamine resin condensate is free from hydroxymethyleneamino groups bonded to the triazine rings of the melamine resin condensate and from -NH-CH₂-O-CH₂-NH- groups linking triazine rings. He teaches only the number of residual OCH₃ groups (see line 0248). However, since the processes used by the Applicant and Ratzsch are identical, Ratzsch's condensate inherently has the same structure as the Applicant's resin.

Regarding claim 26, Ratzsch teaches that after the second step of the reaction, the etherified melamine resin condensate is discharged and palletized (granulated) (see Example 3).

In reference to Claim 33, Ratzsch discloses that a reaction takes place at the presence of ion-exchangers (see line 0108).

In reference to Claim 35, Ratzsch teaches that the melamine/aldehyde molar ratio is 1:3 (see Example 2).

In reference to Claim 38, Ratzsch discloses diol of formula -[CH₂-CH₂-O-CH₂-CH₂]_n, where n=1-200 (see line 0150).

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Regarding Claim 40, Ratzsch teaches that acid adds to a condensate prior the first vaporization step (see Example 1).

In reference to Claims 41-42, Ratzsch teaches double screw extruder with vacuum venting (see Example 34).

In reference to Claim 43, Ratzsch discloses 5% of polyamide (see line 0268) and up to 5% of stabilizers (see Claim 22) added during the extrusion step.

Claim Rejections - 35 USC § 103

Claims 28, 30 and 36 rejected under 35 U.S.C. 103(a) as being unpatentable over Ratzsch in combination with Adams et al (US 2473463) herein Adams

discloses a

Ratzsch/~~direct~~ synthesis process for preparing etherified melamine resin condensates (see discussion above). He uses KOH to quench the reaction at pH=8.7 (see Example 1).

Regarding Claims 28 and 30, Ratzsch does not teach that methylolation takes place at pH 5-6.5 with a subsequent etherification.

Adams teaches a process for making a fully methylated melamine-formaldehyde composition, which obtained by transesterification with butanol (see Examples), where

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first step represents methylation with a subsequent etherification. The above process is well known in the industry. It allows preventing additional polymerization of formaldehyde to paraformaldehyde.

Therefore, it would have been obvious to a person of ordinary skills in the art to obtain melamine-formaldehyde with standard process, where methylation takes place at pH 5-6.5 with a subsequent etherification in order to prevent side reactions of formaldehyde polymerization.

Regarding Claim 36, Adams teaches that increased concentration of the condensate after vaporization is 10-85%. Ratzsch does not disclose any exact solid content after vaporization.

However, it would have been obvious to a person of ordinary skills in the art to obtain 95-99% solids in Ratzsch's process in order to make extrusion procedure more effective. In addition, low amount of aggressive volatiles does not create any safety, corrosion and health issues during the above step of the process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory Listvoyb whose telephone number is (571) 272-6105. The examiner can normally be reached on 9am-6pm.

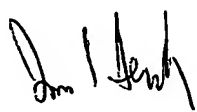
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Listvoyb
Examiner
Art Unit 1711

GL



James J. Seidleck
Supervisory Patent Examiner
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